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ABSTRACT

This project, referred to as the Aviation Careers Accessibility Program (ACAP) established a model program for inner-city minority high school students that would allow them information and accessibility to careers and opportunities in the aviation industry. The project featured two program components: an academic year component during and a 5- or 6-week residential summer component. Over the 3-year grant period, more than 250 students were served. Both components included field trips, guest speakers, career counseling, academic enrichment, test-taking preparation, personal development, mentoring, and exposure to college campus life. Project evaluations were conducted by a questionnaire designed to explore student perceptions and feelings about various aspects of the program. Students were generally positive about their experiences in the program and indicated the program met their expectations and they wanted to be involved in other project activities. They indicated the program helped them to learn how English, mathematics, computer science, and aviation studies were used in the aviation industry. Most students felt the program curriculum was diversified, challenging, and educational. They were very positive about the effectiveness of the field trip experiences. (Appendixes include the following: a composite project evaluation questionnaire; typical course outlines; press release and newspaper article; sample student letter and application; and typical Saturday and summer program agendas.) (YLB)

FIPSE, The Aviation Careers Accessibility Program (ACAP) at Florida Memorial College a Final Report

Grant Number - P116B80101
(09/01/88 - 08/31/92)

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Prepared by:

Florida Memorial College
(Airway and Computer Sciences Division)

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President

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COVER SHEET

Grant Organization:

Florida Memorial College
Division of Airway and Computer Sciences
15800 N.W. 42nd Avenue
Miami, FL 33054

Grant Number:

P116B80101

Project Dates:

Starting Date: 09/01/88
Ending Date: 08/31/92
Number of Months: 36

Project Director:

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FIPSE Program Officer:

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Grant Award:

Year 1: 72,388
Year 2: 84,167
Year 3: 82,688

Total: $239,243

SUMMARY

The purpose of this project, referred to as the Aviation Careers Accessibility Program (ACAP), was to establish a model program for inner-city high school students that would allow them information and accessibility to careers and opportunities in the aviation industry. The project featured two program components including an academic year component during the school year and a five or six-week residential summer component. Included in both components of the program were field trips, guest speakers, career counseling, academic enrichment, test-taking preparation, personal development, a mentoring component, and exposure to college campus life. The project was successful in meeting its goals and in establishing an acceptable model for exposing inner-city high school students to opportunities in the aviation industry.

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Title of Project Report:

FIPSE, The Comprehensive Program Aviation Careers Accessibility Program (03/05/88)

EXECUTIVE SUMMARY

Project Title:

FIPSE, The Comprehensive Program Aviation Careers Accessibility Program (ACAP)

Grantee:

Florida Memorial College
Division of Airway and Computer Sciences
15800 N.W. 42nd Avenue
Miami, FL 33054

Project Director:

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Project Overview

It is generally recognized by those in the aviation that most high school students know little about career opportunities in the aviation industry beyond the more visible positions of pilots, flight attendants, mechanics, and air traffic controllers. Further, it is well known that this lack of information about aviation career opportunities is especially acute among minority students. Thus, Florida Memorial College, Miami, Florida, sought and used the FIPSE grant to launch a program that would offer inner-city, minority high school students accessibility to careers in the aviation industry.

In 1988, a three-year FIPSE comprehensive program grant was awarded to the college to develop and operate an aviation careers accessibility project. The project featured two operational program components and was designed to support a total of 200 students over the three-year grant period. Student participants came largely from four inner-city Dade County public high schools.

The project was successful in meeting several important program goals. More than 250 students were served by the project over the three year grant period. Students were exposed to the aviation industry and aviation career opportunities, and to aviation-related field trips, aviation guest speakers, and aviation career counseling. Additionally, students received academic enrichment, test-taking preparation, personal

and cultural development, mentoring by aviation persons, and exposure to college campus life. Moreover, the project was successful in establishing an acceptable model for exposing inner-city high school students to opportunities in the aviation industry.

Purpose

The purpose of the three-year FIPSE comprehensive Aviation Careers Accessibility Program (ACAP) was to establish a model program for inner-city high school students that would provide them information and accessibility to careers and opportunities in the aviation industry. The program was designed to motivate students about careers in the aviation industry, and to encourage them to pursue a college education, particularly in the field aviation.

An important interest of this project was to expose student participants, largely minority high school students, to African-American and other minority aviation role models through its instructional programs, other program activities, and mentoring program. Because of the limited involvement of minorities in the aviation industry, this project provided information concerning the background, connection, and involvement of African-Americans, other minorities, and women in aviation.

Background

The involvement of minorities in the industry of aviation has, historically, been very limited, indeed. This project was designed to address the problem of minority accessibility to career opportunities in the aviation industry.

As a historically Black institution and one with an aviation education capability, Florida Memorial College was an ideal setting for a project designed to expose inner-city students to careers in aviation. Although the target population was inner-city, minority students, recruitment and participation was open to all students from the four target high schools who were interested in exploring aviation career opportunities.

Project Descriptions

The Aviation Careers Accessibility Program project included academic and aviation career-oriented activities for high school students in two operational components. The two components were an academic year component and a summer component. Other major features of the project included a mentoring program, field trips, guest speakers, career counseling, test-taking preparation, and personal development.

The academic component involved student participation in structured weekend activities at the college and participation in project sponsored high school aviation

club. Twice each month on alternating weekends, student participants met at the college. One of the two monthly Saturday programs was an on-campus activity involving aviation-related lectures, guest speakers, career counseling, video presentations, and use of the aviation simulator and computer laboratories. The other Saturday program involved an aviation-related field trip.

The summer component was an intensive six-week aviation education residential program. During the summer component, students received computer education, academic enrichment in English and mathematics, and aviation education. An important aspect of the summer component was the exposure students received to college campus life through the residential portion of the program. Both components of the project featured aviation- related field trips, career counseling, and exposure to a variety of people who were actively engaged in aviation.

Evaluation/Project Results

Project evaluations were conducted by a questionnaire designed to explore student perceptions and feelings about various aspects of the FIPSE Aviation Careers Accessibility Program. Project evaluations were conducted during summers 1989, 1990, and 1991. During the three years of the project, 77 questionnaires were completed by student participants.

Students were generally positive about their experiences in the program and indicated that the program met their expectations, and that they wanted to be involved in other project activities. They indicated that the program helped them to learn how English, mathematics, computer science and aviation studies are used in the aviation industry. Most students felt that the program curriculum was diversified, challenging, and educational. Also, they were very positive about the effectiveness of the field trip experiences.

Dade County Public Schools was impressed by the concepts and operation of the Aviation Careers Accessibility Project (ACAP) and took steps to model the FIPSE project by developing two summer aviation programs of their own. Those two programs are operating currently and functioning as a part of the Dade County Public Schools magnet programs.

Summary and Conclusions

The FIPSE project demonstrated that there is enormous interests on the part of minority youth about aviation education and aviation careers. Given the low number of minorities and women in responsible aviation positions, programs such as the FIPSE Aviation Careers Accessibility Program are good orientation programs for exposing minorities and females to aviation careers. More programs such as this one need to be established at other institutions throughout the country.

NARRATIVE

Project Overview

In 1983, Florida Memorial College began offering degree programs in aviation management, air traffic control, and transportation management through its Division of Business and Economics. In 1984, the College received a Federal Aviation Administration Airway Science grant to advance its continued interests in aviation education. The college was among the first institutions in the nation to be recognized as an Airway Science institution, and it was the first historically Black institution to be so distinguished.

In September 1988, the William Lehman Aviation Center was dedicated and opened to provide students with aviation education programs. The 56,000 square foot aviation center contained classrooms, offices, several types of aviation and computer laboratories, audio-visual classrooms, meeting rooms, furnishings, and other equipment.

With a state-of-the-art aviation facility, Florida Memorial contemplated other aviation education opportunities to serve the youth of the South Florida community. It is generally recognized by those in the aviation industry and in aviation education that most high school students know little about career opportunities in the aviation industry beyond the more visible positions of pilots, flight attendants, mechanics, and air traffic controllers. Further, it is well known that this lack of information about career opportunities in aviation is especially acute among minority students. Thus, the FIPSE grant was sought and used to launch a program that would offer inner-city, minority high school students accessibility to careers in the aviation industry.

In 1988, a three-year FIPSE comprehensive program grant was awarded to Florida Memorial College to develop and operate an aviation careers accessibility

program. The project featured two program components, including an academic year component which operated during the school year, and a six-week residential summer component. The program was designed to support a total of 200 students over the three-year grant period. Student participants came largely from four inner-city Dade County public high schools. Those high schools were Miami Northwestern, Miami Edison, Carol City, and Miami Central.

In general, the project was successful in accomplishing several important program goals. More than 250 students, 50 above the projected enrollment, were served by the project over the three-year grant period. Students were exposed to the aviation industry and aviation career opportunities, and to aviation-related field trips, aviation guest speakers, and aviation career counseling. Additionally, students received academic enrichment, test-taking preparation, personal and cultural development, mentoring by aviation persons, and exposure to college campus life. Moreover, the project was successful in establishing an acceptable model for exposing inner-city high school students to opportunities in the aviation industry.

Purpose

The purpose of the three-year FIPSE comprehensive Aviation Careers Accessibility Program was to establish a model program for inner-city high school students that would provide them information and accessibility to careers and opportunities in the aviation industry. The program was designed to motivate students about careers in the aviation industry, and to encourage them to pursue a college education, particularly in the field of aviation.

In an article related to predicting the success of Black students in higher education, Sedlacek (1974) made a point which may be generalized to African-American students in aviation education programs. He stressed that the sociocultural

process of attending college was quite different for African-Americans as compared to Whites in that the African-American student, unlike the White student, often had few or no relatives or friends who had been involved in higher education. While this assertion is not as true today as it was in 1974, Sharp (1994) found that it does appear to hold true for the African-American student enrolled in an aviation education program. Sharp contends that this is the case because few African-American aviation students have relatives or friends who are connected with aviation.

An important goal of this project was to expose student participants, largely minority high school students, to African-American and other minority aviation role models through its instructional programs, other program activities, and mentoring program. Because of the limited involvement of minorities in the aviation industry, this project provided information concerning the background, connection, and involvement of African-Americans, other minorities, and women in aviation.

The problem concerning the availability of more educated, capable, and qualified African-Americans, other minorities, and women for careers in the aviation industry is an on-going one for the Federal Aviation Administration and the aviation industry. As a matter of interest for this project, the goal of introducing career opportunities to these students did not change, and was a major goal of this FIPSE project. The aviation industry and all levels of education must continue to be earnest in efforts to provide aviation education opportunities for African-Americans, other minorities, and women.

Background and Origins

Much has been written about minorities and their lack of full participation in the processes and commerce of America. Unlike some areas of American, which even today remain closed or nearly so for minority persons, it would be unfair to contend

that minorities have had no access to the affairs and commerce of the aviation industry. However, it would not be unfair to assert that the involvement of minorities in the industry of aviation has, historically, been very limited, indeed. This project was designed to address the problem of minority accessibility to career opportunities in the aviation industry.

As a historically Black institution and one with an aviation education capability, Florida Memorial College was an ideal setting for a project designed to expose students to careers in aviation. Although the target population was inner-city, minority students, recruitment and participation was open to all students from the four target high schools interested in exploring aviation career opportunities.

The uniqueness of this aviation project required considerable organizational planning. During the initial period of the project, the lack of understanding by FIPSE project staff members of what was required to implement the project caused the first of the scheduled three years of academic year programs to be lost. Further, the first of the three scheduled summer programs was nearly lost as well. With the hiring of a new director for the Airway Science Division in June 1989, plans were taken immediately to implement the summer program, the first major activity of the FIPSE project.

During the first half of the second year of the project, several adjustments in project leadership were made by the college. Leadership responsibility changed from the Airway Science Division to the Center for Community Change. Then a co-directorship was established between the Center for Community Change and the Airway Science Division. After one and a half years of the project, leadership responsibility for the project was returned to the Airway Science Division, the aviation education component of the college.

These organizational predicaments were a part of the early period and learning process of operating this unique aviation education program. However, these predicaments caused valuable time and effort to be lost by the project. Experiences with this project indicated that detailed plans for program implementation are a must to get the program off to a solid start. Such specialized projects must have steadfast support from the college administration, and the project must have personnel in place who understand the project and who have experiences with program implementation.

Project Descriptions

This FIPSE Aviation Careers Accessibility Program project featured several important, innovative features. They are described below.

A. **Academic year component** -- This component was one of the two methodological components of the FIPSE project and was planned to coincide with the Dade County Public School academic year. It involved activities at the college and the high school.

Twice each month on alternating weekends, student participants met at the college. These activities were referred to as the "Saturday program." One of the two monthly Saturday programs was an on-campus activity involving aviation-related lectures, guest speakers, career counseling, video presentations, and use of the aviation simulator and computer laboratories. The other Saturday program involved an aviation-related field trip. Students visited local airports, fixed-based operators and other airport businesses, the local air force base, Kennedy Space Center, FAA control towers and other FAA facilities, major airlines, the sheriff's aviation department, and the aviation component of the U.S. Coast Guard. During the academic year, students met in their high school aviation clubs formed as a part of the FIPSE project (see section below on high school aviation clubs).

B. **Summer component** -- This component was the second of the two operational components of the project. Students were enrolled in a Sunday evening through Friday, six-week long residential program and were housed in the dormitories of the college. This component of the program was designed to give students an intensive orientation to the aviation industry.

A typical morning involved aviation, computer science, English, and mathematics courses in the mornings. At noon, lunch was had in the college cafeteria. In the afternoons, students were engaged in a variety of activities such as lectures, video tape presentations, guest speakers, extra academic work, and field trips. After dinner, evening hours were spent in group sessions, career counseling, academic enrichment, test-taking preparation, and personal development.

In addition to the intensive aviation orientation and other activities in which students were involved during the summer, this component was significant because students were exposed to college life. In short, the students of the program gained valuable information and insights about being college students. Program participants lived in the dormitories, ate in the college cafeteria, attended classes as did the regular college students who were engaged in summer school courses, utilized the aviation and computer laboratories of the college, and recreated in the college gymnasium and swimming pool.

C. **Mentoring program** -- During the second year of the program, a mentoring program was started. Members of the aviation community served as mentors. Several activities were planned so that mentors and students could learn about one another and to match mentor-student aviation interests. Forty-eight students were matched with twenty-three mentors with most mentors accepting two students.

For various reasons, it is often the case in matching mentors with students that the relationship simply does not take hold. A month following the matching of mentors and students, almost 80% of the mentors reported at least limited contact with their student. After six months, that percentage had fallen to just less than 25%. By the end of the project, only six of the twenty-three mentors reported that they were still in touch with their students.

Several strong and positive mentor-student relationships continued beyond the end of the project. Other relationships may have been established as well. However, the time and effort needed to support this component of the program was over and beyond that available to members of the project staff. During the course of the project, it became evident that a person knowledgeable of the mentoring process and devoted to the mentoring effort was needed to sustain a strong mentoring component for the project.

D. <u>High school aviation clubs</u> -- As a part of the academic year component, aviation clubs were formed in each of the target high schools. An aviation club advisor was selected for each club and paid a stipend for their time and effort. It was the responsibility of the advisor to serve as liaison between their school and the project staff, and to serve as the first line of contact for students concerning any information related to the club, its activities, and the project.

The aviation clubs were one means by which students were recruited for both the academic year and summer programs. Advisors were free to form their clubs in any manner consistent with project goals and operations, and were provided a variety of aviation materials and project staff assistance to support their club efforts.

The cycle of aviation club activity varied among the four high schools. It was sometimes the case that while two or three of the aviation clubs were quite active,

one or two of them were not. Some club advisors seemed better in touch with their student members and were better able to keep them motivated about project activities. However, occasionally club advisors reported that it was difficult at times to engaged student members because of competing school distractions, such as other clubs and organizations, major school activities, examinations, etc. Also, advisors reported that they, themselves, would be pulled away from aviation club work by regular work responsibilities and by other school duties.

The high school aviation clubs were important to successful academic year programs and summer program recruitment. Thus, aviation club advisors were critical links to effective program operation. Given the pivotal role of the aviation club advisor in this project, their overall performance may have been enhanced had they been better compensated for their time and effort. Future projects utilizing the club advisor concept should ensure that advisors are selected who have knowledge and background of the project's subject area, and who can serve as motivators and role models for the students.

E. **Field trips** -- Field trips were an integral part of both the academic year and summer programs. Just about once a month during the academic year program and once a week during the summer program students took an aviation, transportation, or computer technology-related field trip. Although most field trips were related to aviation, attempts were made to show the interrelationship between aviation, other modes of transportation, and the computer industry.

F. **Guest speakers** -- Aviation, transportation, and computer technology guest speakers from those industries were asked to address and engage both academic year and summer program students. Guest speakers made presentations once a month during the Saturday program (the other Saturday was a field trip) and

daily during the summer program. Guest speakers gave lectures, made video presentations, and shared literature and other materials with the students. But equally important, students were always given ample opportunity to ask questions of the speakers about their presentations.

G. **Counseling** -- Aviation career counseling was an on-going effort of the project and was conducted largely by the staff members who themselves were products of the aviation industry. In addition to counseling students about career opportunities in the aviation industry, emphasis on completing their education was stressed to all students by mentors, club advisors, and teachers of the project.

During the summer program, students were assigned to peer groups. These groups included 8 to 10 students. Peer group activity was conducted by junior and senior students of the college hired to work with the student groups. Because of the closeness of ages between the students of the project and the peer counselors, attention was given to social and peer-pressure difficulties in these group sessions.

Also, during the summer program, an evening coordinator was hired to work with students and to direct peer counselors during the evening portion of the program. As an Occupational Specialist for Dade County Public Schools, this person was well-qualified to advise students on career counseling and personal decision-making.

H. **Academic enrichment** -- Each morning during the summer, every student received instruction in aviation, computer science, English, and mathematics by teachers hired by the project. They were teachers working in the public school system or on the college level. Class sizes were less than 15 students per class.

In the early afternoon, a study period was set aside so that students and teachers could get together on a one-to-one basis. At this time, teachers could

follow-through on problem areas experienced by students or explore a subject area or project of interest to students. Study time was incorporated into the evening hours of each day where peer counselors followed-through on assignments given to students by the teachers or provided tutoring to students who wanted the assistance.

It was felt that academic enrichment efforts could only serve to enhance the overall academic performance of student participants. Many parents and teachers of the students, and even the students themselves, reported elevated confidence in their ability to do regular school work and they experienced increased academic performance.

I. **Test-taking preparation** -- During the summer program, several sessions in the evenings were conducted to familiarize students with test-taking preparation and test-taking techniques. This was a part of the academic enrichment features of the project. These sessions were conducted by the Evening Coordinator who encompassed such techniques in her work for the public schools.

J. **Personal development** -- It was recognized at the very start that precise focus could not be given to the subject matter of the project without also giving some attention, from time to time, to student personal development and self-esteem. If students could not feel good about themselves or recognize personal growth and development, then meaningful participation in the project would be difficult to maintain.

During the academic year program, project staff members held occasional sessions during Saturday programs to deal with matters related to personal development. However, such matters were more adequately handled during the summer program.

Personal development efforts also took place during the summer program and were conducted by the Evening Coordinator and the peer counselors. These sessions involved handling conflict and peer pressure, cultural activities, resume writing, job interviews, SAT preparation, and public speaking through Toastmasters, Inc.

All members of the staff made themselves available to work with and assist students. Additionally, project staff members worked with outside agencies to provide other more serious and immediate assistance not available project means.

Project Evaluation

Project evaluations were conducted using a questionnaire designed by Dr. Sharp, the project director. The purpose of the evaluation was to explore student perceptions and feelings about various aspects of the FIPSE Aviation Careers Accessibility Program. Project evaluations were conducted during summers 1989, 1990, and 1991. Questionnaires were completed by 31 students in 1989, 27 students in 1990, and 19 students in 1991 for a total of 77 completed. The 77 questionnaires completed represented 31% of the 250 students who participated in the project over the three year period.

Project Results

Students were generally positive about their experiences in the program and indicated that the program met their expectations, and that they wanted to be involved in other project activities. They indicated that the program helped them to learn how English, mathematics, computer science, and aviation studies are used in the aviation industry.

Students felt that program instructors were knowledgeable of their subject areas, effective in their classroom activities, and treated all students fairly. In the

opinions of students, course requirements were a direct reflection of their expected outcomes for those courses. Further, it was their feeling that the peer counselors were helpful and added to the enjoyment of the residential program. Most students felt that the program curriculum was diversified, challenging, and educational. Also, they were very positive about the effectiveness of the field trip experiences. (See Appendix.)

Florida Memorial College expressed no interest and made no efforts to continue the FIPSE project beyond the grant period. However, Dade County Public Schools was impressed by the concepts and operations of the Aviation Careers Accessibility Project and took measures to model the FIPSE project with two summer aviation programs of their own.

The FIPSE Aviation Careers Accessibility Program model was used by Dade County Public Schools to establish the Airway Science Summer Immersion Program and the Airway Science Summer Institute Program. These two programs are operating currently and functioning as a part of the Dade County Public Schools magnet programs. Further, the FIPSE model may have been used, in part, by Dade County Public Schools to establish other non-aviation summer programs.

Summary and Conclusions

The FIPSE Aviation Careers Accessibility Program demonstrated that there are enormous interests on the part of minority youth about aviation education and aviation careers. Given the low number of minorities and women in responsible aviation positions, programs such as the FIPSE Aviation Careers Accessibility Program are good orientation programs for exposing minorities and females to aviation careers. More programs such as this one need to be established at other institutions throughout the country.

It is important to recognize that most minority students in aviation education programs will usually indicate that they were not motivated to pursue the program because of the influence of aviation people they know or because of positive aviation role models. Nor will they indicate that they have had backgrounds or exposures to the field of aviation prior to enrollment in the program. In programs where minority students make up the largest portion of the enrollment, it is important that the staff and instructors of the program reflect, to a great extent, the ethnicity, gender, and backgrounds of the students in the program.

Beyond program administration and subject matter delivery, it is important that project staff members are able to serve as positive role models for the students. This seems increasingly important for minority and female students entering career fields, such as those in the aviation industry, where their knowledge of the field is limited, and where minorities and women are underrepresented. Adequate role models may help to deal with such concerns (Post, P., Stewart, M.A., & Smith, P.L., 1991; Sharp, 1994).

Regardless of initiatives designed to minimize the lack of representation of minorities and women in aviation, the larger question of whether Black high school and college students are being prepared to meet the demands of the more technically-oriented programs of aviation education is one that remains to be answered. Practitioners interested in a project such as the FIPSE Aviation Careers Accessibility Program need to address the important question of how minority and female student participants can receive appropriate advisement and counseling about aviation careers following the end of the project. Once the interests of students have been piqued, attention must be given to ways to follow-up on their interests.

This project was designed for inner-city, minority high school students to provide them information and accessibility to careers and opportunities in the aviation industry. Throughout the three years of the project, that goal and operational premise did not change.

Post, P., Stewart, M.A., & Smith, P.L. (1991). Self- efficacy, interest, and consideration of math/science occupations among black freshmen. Journal of Vocational Behavior, 38, 179-186.

Sedlacek, W.E. (1974). Issues in predicting black student success in higher education. Journal of Negro Education, 43, 512-516.

Sharp, J.A. (1994). Academic achievement, career expectations and self-efficacy of African-American students in Airway Science. Unpublished doctoral dissertation, University of Miami.

APPENDICES

APPENDIX - A

INFORMATION FOR FIPSE

Forms of Assistance

Our project received extraordinary assistance for our FIPSE Program Officer Dr. Helen Scher. She was readily accessible by telephone. This was important to our project when we needed some information or a point of clarification or when, from time to time, we would experience into some operational difficulty.

Also, Dr. Scher made herself available for visits to our campus to meet with key persons of the college when personnel changes were made. This was key to ensuring that persons at the college had a firsthand understanding of FIPSE requirements for program operation and grant continuation.

Another key point which made Dr. Scher so important to our project was that she has an aviation background. This helped her to more readily gain a fuller understanding of the demands of this unique educational program. Which her understanding of aviation education, she proved to be a valuable resource in the overall operation of our program and was very supportive in our efforts to explore was had not been explored by a FIPSE project prior to this one.

Reviewing aviation education proposals

The following should be considered in reviewing future proposals in the aviation education area.

1. Even though this project was able to meet program goals and student enrollment, it got off to a very slow start. While plans for program start-up had been made, the project lacked the staff with knowledge to effectively implement the program. Detailed plans for program implementation are a must to get the program off to a solid start. Thus, specialized projects such as this one must have steadfast support from the college administration, and the project must have personnel in place who understand the project and who have experiences with new program implementation.
2. It is highly recommended that in programs where minority students make up the largest portion of the enrollment, it is important that program staff and instructors reflect, to a great extent, the ethnicity, gender, and backgrounds of the students in the program. These staff members may find it easier to relate to the students, and serve as role models for the students.
3. Practitioners interested in a project such as the FIPSE Aviation Careers Accessibility Program need to address the important question of how minority and female student participants can receive appropriate advisement and counseling about aviation careers following the end of the project. Once the interests of students have been piqued, attention must be given to ways of following-up on their newly found aviation interests.

APPENDIX - B

COMPOSITE PROJECT EVALUATION QUESTIONNAIRE

FIPSE AVIATION CAREERS ACCESSIBILITY PROGRAM

COMPOSITE PROJECT EVALUATION QUESTIONNAIRE
for
PROJECT YEARS 1989, 1990, and 1991

NOTE --- Seventy-seven (77) students completed the evaluation questionnaire over the three year period of the FIPSE project. The range of responses for the questionnaires was 31 to 52, not including responses to the open-ended short essay answers.

Figures opposite response choices for each evaluation item indicate mean score responses for all students who responded to the item. Due to rounding, total percentage for each evaluation item was 100%.

General Program Evaluation

1. Name _____

2. School _____

3. Grade _____

4. How did you learn about the Aviation Careers Accessibility Program?

a. teacher	2%
b. guidance counselor	3
c. principal	0
d. newspaper	1
e. radio, television	3
f. friends, relatives	12
g. Florida Memorial College personnel	74
h. other _____	0

5. How much did you know about the program before you began?

a. a great deal	5%
b. some	10
c. a little	55
d. nothing	30

6. If you had known more about the Aviation Careers Accessibility Program, would you have come this summer?

a. yes	98%
b. no	2

7. Was the program worth your time and effort?

a. yes	96%
b. no	3
c. some what	1
d. not sure	0

8. Are you knowledgeable about the Aviation Magnet Program?

a. yes	98%
b. no	2

9. Do you plan to participate in the academic year component of the Aviation Careers Accessibility Program?

a. yes	82%
b. no	18

10. Do you plan to participate in the aviation club established in your high school?

a. yes	91%
b. no	2
c. undecided	7

11. What is your impression of the way the program was administered and conducted this summer?

a. excellent	18%
b. very good	73
c. okay	7
d. poor	2

12. Given the opportunity, will you come back to the summer program next year?

a. yes	87%
b. no	10
c. not sure	3

Course Evaluation -- Lectures

13. The daily lectures were well organized.

a. agree	75%
b. neutral	18
c. disagree	7

14. The daily lectures had great meaning for me.

a. agree	73%
b. neutral	23
c. disagree	4

15. There were plenty of opportunities for questions and discussions.

a. agree	99%
b. neutral	1
c. disagree	0

16. There were an adequate number of handouts to support the lectures.

a. agree	86%
b. neutral	12
c. disagree	2

17. For me, the level of difficulty for the lectures was about right.

a. agree	78%
b. neutral	17
c. disagree	5

18. My progress in the lectures was satisfactory.

a. agree	92%
b. neutral	7
c. disagree	1

19. What I learned during the lectures will prove to be very valuable to me.

a. agree	90%
b. neutral	6
c. disagree	4

20. The instructors during the lectures were very professional and knowledgeable.

a. agree	94%
b. neutral	2
c. disagree	4

Course Evaluation -- Aviation Classes

21. The aviation classes were well organized.

a. agree	92%
b. neutral	6
c. disagree	2

22. The aviation classes had great meaning for me.

a. agree	88%
b. neutral	6
c. disagree	6

23. There were plenty of opportunities for questions and discussions.

a. agree	97%
b. neutral	2
c. disagree	1

24. The textbook was appropriate for the aviation course.

a. agree	40%
b. neutral	46
c. disagree	14

25. There were an adequate number of handouts to support the aviation classes.

a. agree	78%
b. neutral	20
c. disagree	2

26. For me, the level of difficulty during the aviation classes was about right.

a. agree	86%
b. neutral	14
c. disagree	0

27. My progress in the aviation classes was satisfactory.

a. agree	90%
b. neutral	10
c. disagree	0

28. What I learned during the aviation classes will prove to be very valuable to me.

a. agree	82%
b. neutral	16
c. disagree	2

29. My own personal objectives for the aviation course were met.

a. agree	93%
b. neutral	6
c. disagree	1

30. The instructor(s) for the aviation classes was very professional and knowledgeable.

a. agree	96%
b. neutral	2
c. disagree	2
d. some were and some were not	0

Course Evaluation -- Computer Classes

31. The computer classes were well organized.

a. agree	87%
b. neutral	9
c. disagree	4

32. The computer classes had great meaning for me.

a. agree	91%
b. neutral	8
c. disagree	1

33. There were plenty of opportunities for questions and discussions.

a. agree	94%
b. neutral	6
c. disagree	0

34. There were adequate opportunities in class for me to use the computers.

a. agree	95%
b. neutral	5
c. disagree	0

35. For me, the level of difficulty during the computer classes was about right.

a. agree	92%
b. neutral	4
c. disagree	4

36. My progress in the computer classes was satisfactory.

a. agree	94%
b. neutral	4
c. disagree	2

37. What I learned during the computer classes will prove to be very valuable to me.

a. agree	87%
b. neutral	11
c. disagree	2

38. My own personal objectives for the computer classes were met.

a. agree	96%
b. neutral	4
c. disagree	0

39. The instructor(s) for the computer classes was very professional and knowledgeable.

a. agree	90%
b. neutral	6
c. disagree	2
d. some were and some were not	2

Field Trip Evaluation

40. The field trips were well planned and organized.

a. agree	100%
b. neutral	0
c. disagree	0

41. Whenever I had a question about something on the field trip, I had the opportunity to have my question answered.

a. agree	96%
b. neutral	4
c. disagree	0

42. I knew well in advance about the field trips we would be taking so that I could prepare for them if I wanted to.

a. agree	92%
b. neutral	6
c. disagree	2

43. The field trips related directly to the study of aviation and/or computer science.

a. agree	100%
b. neutral	0
c. disagree	0

44. What I learned on the field trips was interesting.

a. agree	98%
b. neutral	2
c. disagree	0

45. The number of field trips we took were:

a. too many	0%
b. about right	52
c. too few	48

46. The field trips are an important part of the Accessibility Program.

a. agree	99%
b. neutral	1
c. disagree	0

Campus Life Evaluation

47. Was this your very first visit to a college campus?

a. yes	38%
b. no	62

48. Was this your first time living on a college campus?

a. yes	92%
b. no	8

49. My experience living in a college dormitory was:

a. great	0%
b. good	4
c. okay	22
d. not so good	47
e. miserable	27
f. not applicable	0

50. The food in the cafeteria was:

a. great	21%
b. good	51
c. okay	26
d. not so good	2
e. miserable	0

51. The evening activities were:

a. great	29%
b. good	67
c. okay	4
d. not so good	0
e. very poor	0

52. Supervision in the dormitories was adequate.

a.	agree	21%
b.	neutral	28
c.	disagree	51
d.	not applicable	0

Short Essay Answers

53. What one thing about the program would you change for next year?

54. What two lectures were most beneficial to you?

55. What field trip did you most enjoy?

56. What field trip did you least enjoy?

57. What did you like the most about living in the dormitory?

58. What did you like the least about living in the dormitory?

59. What one thing did you not like about the cafeteria?

60. What did you enjoy most about the evening activities?

61. What would you like to see added to the evening activities?

62. What would you change about the evening activities?

63. What is your opinion about the Aviation Careers Accessibility Program?

64. Other comments about the program, personnel, activities, etc.

Sharp/saj
11-6-91

APPENDIX - C

TYPICAL COURSE OUTLINES

FLORIDA MEMORIAL COLLEGE
INTRODUCTION TO COMPUTER SCIENCE
SUMMER - 91
COURSE OUTLINE

COMPUTER: WHAT IS...
HISTORY AND BACKGROUND, EARLY COMPUTERS, YESTERDAY-TODAY TOMORROW, SOCIETY & THE COMPUTERS, FUNCTIONALITY AND ROLE

COMPUTER TYPES:
MAINFRAMES, MINI, WORK STATIONS, MICRO

PERIPHERALS:
CRT, KBD, PRINTERS, MODEMS, DRIVES, SCANNERS,MODEMS, DIGITIZERS, VOICE SYNTHESIZERS.

STORAGE DEVICES:
DRIVES, HARD DRIVES, SCSI DRIVES, DISK, TAPES

OPERATING SYSTEMS:
MAINFRAME, MINI, MICRO, MVS, VM, UNIX, XENIX, OS/2, DOS

MEMORY: ROM, RAM, MEMORY MANAGEMENT, OPTIMIZATION

SOFTWARE: SOFTWARE TYPES: LOW LEVEL, HIGH LEVEL, DATABASES, WORD PROCESSORS, SPREADSHEETS

LANGUAGES: ASSEMBLER, C, C++, FORTRAN, COBOL, PASCAL, SQL LANGUAGES, DBASE, SAS, DB2, FOCUS

COMPILERS/INTERPRETERS:
WHAT IS..., COMPILED CODE vs INTERPRETED SOURCE CODE

NETWORKS: WHAT IS..., LAN, WAN, ETHERNET, 3COM, NOVELL, ARCNET, TOKEN RING

DATABASES: WHAT IS..., DBASE, ORACLE, PARADOX, FOX, DATA TYPES, STRUCTURE, RECORD LAYOUT, ELEMENTS, FIELDS

DATA MANAGEMENT:
SECURITY, R/O, R/W, HIDDEN, ARCH, OPERATING LEVEL

WORD PROCESSORS:
WHAT IS..., GUI vs CHARACTER WP5.1, WORD, AMI, PFS, DW4, DESKTOP PUBLISHING,

SPREADSHEETS: WHAT IS.., TYPES: LOTUS, EXCEL, QUATTRO PRO

Florida Memorial College
Summer Seminar Session
26 June to 4 August 1989

. Introduction & overview of computers
Computer concepts. Disk care & handling. Chapter 1
Lab: Operating the system. Formatting w/wo system
. Development of computers. Chapter 2 & 6
Lab: Writing simple programs in BASIC.
Lab: Writing programs with variables.
. Information representation & storage. Chapter 3
Lab: Writing programs with loops
Lab: Writing programs with subroutines
0. Lab: cont.
1. System organization & central processing unit. Chapter 4
2. Input & output devices. Chapter 5
3. Word processing. Chapter 8
4. Lab: Typing tutor
5. Lab: Word Perfect Tutor
6. Lab: Writing a personal letter.
7. Lab: Editing & correcting.
8. Lab: Summary report of a recent field trip.
9. Lab: Application for admission to colleges. (four)
0. Lab: Moving, inserting, and deletion of text.
1. Lab: X, Y, Z, Letter - Search and replace.
2. Data Base Systems. Chapter 10
3. Lab: Setting up a data base.
4. Lab: Create a date base of your friends, addresses, and phone numbers.
5. Lab: Additions, corrections and deletions.
6. Data communications. Chapter 11
7. Electronic Spreadsheet. Chapter 9
8. Lab: Setting up a spreadsheet.
9. Lab: Playing "What If"
0. Lab: A look at some other programs.

6 wk program Aviation Summer Institute Prog
9th thru 11th

Florida Memorial College
Summer Seminar Session
26 June to 4 August 1989

1. Introduction & overview of the aerospace environment.
2. The atmosphere. Chapter 2-1
3. Weather elements. Chapter 2-2
4. Weather reports. Chapter 2-3
5. Weather forcasting. Chapter 2-3
6. Weather hazards to aviation. Chapter 2-4
7. Exoatmospheric environment. Chapters 2-5 & 2-6
8. Basic aeronautics. Chapter 3-1
9. cont.
10. Three axes and lift & control devices. Chapter 3-2
11. Weight & balance. Chapter 3-2
12. Structures & systems. Chapter 3-3
13. cont.
14. Aircraft propulsion. Chapter 3-4
15. Navigation Principles. Chapter 3-5
16. Using navigation tools.
17. Electronic navigation & Navigation aids Chapter 3-6
18. Commercial aircraft (fixed & rotary wing) Chapter 4-1 & 4-5
19. General aviation. Chapter 4-2 & 4-3
20. Military aircraft & Rockets/missiles. Chapter 4-4 & 4-6
21. Rocket fundamentals. Chapter 5-1
22. Chemical propulsion. Chapter 5-2
23. Advanced propulsion systems. Chapter 5-3
24. Guidance & control. Chapter 5-4
25. Orbits & trajectories. Chapter 5-5
26. Spacecraft. Chapter 5-6
27. History of aerospace up to WW II. Chapters 1-1, 1-2, & 1-3
28. History of aerospace WW II to present. Chapters 1-4, 1-5, & 1-6
29. Civilian aerospace programs. Chapter 6-3, 6-4, & 6-5
30. Military policies & effects on aviation. Chapter 6-1 & 6-2

Name_____
August 8, 1989

FLORIDA MEMORIAL COLLEGE
Airway Science Program
Test

What was the date of the first successful Wright Brothers flight, and
re did it take place?

What are the three axes of rotation in an airplane?
1.
2.
3.

Which control surface causes movement on each axis?
1.
2.
3.

What is the purpose of the flaps on an airplane?

What are the four forces acting on an airplane?
1.
2.
3.
4.

What is RELATIVE WIND? Give an example.

What is a STALL and what causes it?

What is the EMPENNAGE of an airplane?

What are the usual Gyro instruments in a small airplane? (three)
1.
2.
3.

Name the strokes of a four cycle gasoline engine.
1.
2.
3.
4.

Why is a jet engine more efficient than a piston engine at high
itude, say 30,000 feet?

The earth is divided into N - S lines, and E - W lines. What are each
led?

What are MAJOR ones called? (0.12)

. What are the three types of navigation?

1.
2.
3.

. What is a VOR and what is it used for?

. What causes a heading to be different (in degrees) than the course?

. Describe the observable differences between a DC-10 and an L-1011.

. Describe the observable differences between a C-5A and a 747.

. What was the name of the first Jet Transport and what company built it?

AIRWAY SCIENCE SUMMER IMMERSION PROGRAM (ASSI)

(PROPOSED)
Course Outline for the Aviation Course

The purpose of the ASSI Aviation Course is to expose and to acquaint students to a variety of topics and issues related to flight, the aviation industry, and aviation career opportunities. The course is intended to be topical in nature so as to cover as many aspects of aviation as might be possible during the five week summer program.

Students can expect to leave the ASSI summer program with a true overview of the aviation industry. Moreover, they will be knowledgeable of aviation education and aviation career opportunities. Some of the topics to be covered are:

a. the history of aviation
b. basic areodynamics
c. the theory of flight
d. flight safety
e. the flight environment
f. meteorology
g. basic navigation
h. Federal Aviation Regulations
i. requirements for becoming a pilot
j. air traffic control
k. airport management
l. human factors in aviation
m. Federal Aviation Administration (FAA)
n. National Transportation Safety Board (NTSB)
o. career opportunities

COURSE OUTLINE

Week #1- History of Flight

- Student will take a Pretest
- Read the Greek Myth Daedalus and Icarus and discuss
- Read stories of man's first attempts to fly
- Begin course long Journal's to be continued throughtout the summer
- Read about the first women in flight
- Read about the first Black's in flight

Week #2- Development of Flight

- Visions of flight
- Read excerpts of books about flight, written by Gann
- Read and discuss first flight at Kitty Hawk
- Read and discuss Spirit of St.Louis, Lindberg
- Creative Writing on 1. How the first people must have felt
  2. How would they feel if they were one of the first people to fly.

Week #3- How has flight changed our world?

- 1. War- Read war stories from WWI and WWII and how it affected the war.
- 2. Transportation- How commercial flying has developed. Modes of transportation before flight
- --3. Communication- How flight has changed our world of communicatic
- Students will be asked to read literature about how flight has changed over the years and evaluate through creative writings and oral discussion .

Week #4- Flight in today's world

- Read and discuss about new equipment , types of planes for

military and commercial use

- Flight in times of war, U.S. - Iraq
- Commercial flying today- (two story planes)
- Space Shuttle and Space travel

Recreational flying- skydiving, hand gliding

- Read excerpts from the book, Right Stuff

Week #5- The future of flight

- Students will develop their autobiographies as a pilot
- Discuss where will flight lead to in the 21st century by the use of roleplaying and creative writing topic.
- Discuss what ways flight will change
- Develop video interviews with future pilots.

Course Title: Math

Course Objective: This course is designed to familiarize students grades 9-12 with the basic mathematical concepts used in the field of aviation.

COURSE OUTLINE

1. **Time in aviation**
   - i) Converting standard time to military time.
   - ii) Converting military time to standard time.
   - iii) Computing flight time
   - iv) Computing average ground speed.

2. **Measurements in aviation**
   - i) Linear measure.
   - ii) Volume measure.
   - iii) Area
   - iv) Angular measure
   - v) Force and pressure measure

3. **Word problems involving:**
   - i) Addition, subtraction, multiplication and division
   - ii) Weight
   - iii) Fuel consumption
   - iv) Altitude

4. **Temperature measurement**
   - i) Atmospheric changes in temperature
   - ii) Engine temperature

5. **Charts, Graphs, and Maps.**
   - i) Reading and comprehension
   - ii) Plotting points

***Students that excel will adhere to the same course outline using problems and formulas that are more challenging.**

FLORIDA MEMORIAL COLLEGE
SUMMER PROGRAM 1991

J. ANTHONY SHARP
DIRECTOR, DIVISION OF AIRWAY SCIENCE AND COMPUTER SCIENCES
15800 N.W. 42ND AVENUE
MIAMI, FLORIDA 33054
623-4277

ROSS A. MCCLOUD
PROGRAM MANAGER, AIRWAY SCIENCE DIVISION
623-1429
386-5916 (H)

FIELD TRIPS

MIAMI CENTER

ARTCC

POSSIBLE TOPICS TO DISCUSS:

- Space Shuttle
- Advanced Aircraft Design
- Stealth Parameters
- Commercial Aviation
- General Aviation
- Air Traffic Control System
- Economics of Air Travel
- Uniqueness of Airline Product
- Deregulation (# and type of carriers)
- Accident Investigation
- Obtaining Flying Licenses
- Roles of Air Transportation
- Pertinent Legislation
- Freight vs Passenger Operations
- Non-Flying Aviation Jobs
- FAA Forecasts

FLORIDA MEMORIAL COLLEGE
INTRODUCTION TO COMPUTER SCIENCE
SUMMER - 91
Nicholas Sismanidis

DATE	8:00-8:50	9:00-9:50	10:00-10:50	11:00-11:50
MON, JUNE 24	**ORIENTATION** CLASS PLAN PURPOSE ACCOMPLISHMENT	**COMP. HISTORY BACKGROUND** EARLY COMPUTER TODAY-TOMORROW	**SOCIETY & THE COMPUTERS** FUNCTIONALITY AND ROLE	**COMPUTER TYPE** MAINFRAMES MINI - MICRO WORK STATIONS
TUE, JUNE 25	**PERIPHERALS:** CRT, KBD, PRINTERS, MODEMS, DRIVES	SCANNERS, MODEMS, DIGITIZERS, VOICE SYNTHES.	**MEDIA STORAGE DEVICES:** DRIVES, HD, DISK, TAPES	**WORKSHOP**
WED, JUNE 26	**OPERATING SYSTEMS:** MINI, MICRO, MAINFRAME	MVS, VM, UNIX, XENIX, OS/2	**WORKSHOP**	**HARDWARE AND SOFTWARE**
THU, JUNE 27	**SOFTWARE TYPES LOW LEVEL HIGH LEVEL**	DATABASES WORDPROCESSORS SPREADSHEETS	**WORKSHOP**	**LANGUAGES:** ASSEMBLER, C, C++, FORTRAN, COBOL, PASCAL
FRI, JUNE 28	**SQL LANGUAGES** DBASE, SAS, DB2, FOCUS	**COMPILERS:** WHAT IS... **INTERPRETERS:** WHAT IS...	**WORKSHOP**	**WORKSHOP**
MON, JULY 1	**NETWORKS:** WHAT IS... LAN, WAN	**NETWORK TYPES:** ETHERNET, 3COM NOVELL, ARCNET TOKEN RING	**WORKSHOP**	**WORKSHOP**
TUE, JULY 2	**DATABASES:** WHAT IS... DBASE, ORACLE, PARADOX, FOX	**DATA STRUCTURE** RECORD LAYOUT, ELEMENTS, FIELDS	**WORKSHOP**	**WORKSHOP**
WED, JULY 3	**DATA MGT'MENT SECURITY** R/O, R/W HIDDEN, ARCH	**WORKSHOP**	**MORE ON DATA SECURITY:** OPERATING LEVEL, PGRM	**WORKSHOP**
FRI, JULY 5	**WORD PROCESSING:** WHAT IS...	**TYPES:** GUI vs CHARACTER	WP5.1, WORD, AMI, PFS, DW4 DESKTOP PUBLISHING	**WORKSHOP**
MON, JULY 8	MORE ON WORD PROCESSING WORD PERFECT 5.1	**WORKSHOP**	**WORKSHOP**	QUESTIONS & ANSWERS ON WORD PROCESSING
TUE, JULY 9	**SPREADSHEETS:** WHAT IS..	**TYPES:** LOTUS, EXCEL, QUATTRO PRO	**WORKSHOP**	**WORKSHOP**

WED, JULY 10	**LANGUAGES:** WHAT IS...	ASSEMBLER, C, C++, FORTRAN, BASIC, PASCAL, COBOL	HANDS ON	PROGRAMMING: WHAT IS...
THU, JULY 11	PROGRAMMING WITH **BASIC** QUICK BASIC	WORKSHOP	PROGRAMMING WITH **FORTRAN**	WORKSHOP
FRI, JULY 12	PROGRAMMING WITH **C, C++**	WORKSHOP	PROGRAMMING WITH **ASSEMBLER**	WORKSHOP
MON, JULY 15	USE OF LANGUAGES ONE vs ANOTHER	WORKSHOP	STAND ALONE VS COMPILER DEPENDED	WORKSHOP
TUE, JULY 16	TIPS & TRICKS WITH **DOS**	WORKSHOP	TIPS & TRICKS WITH **MAINFRAME**	WORKSHOP
WED, JULY 17	MORE ON TIPS & TRICKS ON DOS	WORKSHOP	MORE ON TIPS & TRICKS ON MAINFRAMES	WORKSHOP
THU, JULY 18	**OVERVIEW** ON WORD PROCESSING	WORKSHOP	WORKSHOP	WORKSHOP
FRI, JULY 19	**OVERVIEW** ON DATABASES DBASE	WORKSHOP	WORKSHOP	WORKSHOP
MON, JULY 22	OVERVIEW ON SPREADSHEETS LOTUS	WORKSHOP	WORKSHOP	WORKSHOP
TUE, JULY 23	**OVERVIEW** ON OPERATING SYSTEMS	WORKSHOP	WORKSHOP	WORKSHOP
WED, JULY 24	CLASS PROJECT **HANDS ON WP5.1**	REVIEW CLASS PROJECT	CLASS PROJECT **HANDS ON DBASE**	REVIEW CLASS PROJECT
THU, JULY 25	**OPEN** TO INDIVIDUAL WORKSHOP PREFERENCE	OPEN WORKSHOP	OPEN WORKSHOP	OPEN WORKSHOP
FRI, JULY 26	FINAL REVIEW OF **COMPUTERS**	FINAL REVIEW OF **PERIPHERALS**	**FINAL REVIEW** OF **OPERATING SYSTEMS**	FINAL REVIEW OF **SOFTWARE**

APPENDIX - D

PRESS RELEASE AND NEWSPAPER ARTICLE

Aug 88

MEDIA CONTACT:
Nadine Drew

FLORIDA MEMORIAL COLLEGE RECEIVES GRANT TO INFORM MINORITY STUDENTS ABOUT CAREERS IN AVIATION

MIAMI, FL -- Florida Memorial College has been awarded a three year grant by the United States Department of Education for an Aviation Careers Accessibility Program. According to vice president for development Barbara Edwards, the grant of $242,793 from the Fund for the Improvement of Postsecondary Education will be used to launch a program that will offer high school students accessibility to careers in the aviation industry.

"Typically, the average high school students thinks only of pilots when thinking of aviation careers, not realizing that hundreds of other professionals must support each pilot who is in the cockpit," she said. "This lack of information, and of proper preparation to take advantage of the opportunities, are especially acute in the low-income and minority community."

Florida Memorial College's Aviation Careers Accessibility Program academic and career-oriented activities for high school students during the school year and an intensive six-weeks residential program during the summer. The program will include a mentorship component, academic enrichment, career counseling, test-taking preparation, field trips relative to the aviation industry, and exposure to college campus life. Program participants will come from inner-city high schools in the Greater Miami area, namely; Miami Northwestern, Miami Edison, Carol City, and Miami Central.

-More-

FLORIDA MEMORIAL COLLEGE RECEIVES GRANT TO INFORM MINORITY STUDENTS ABOUT CAREERS IN AVIATION

"This program reflects the need of the College to enhance educational opportunities for the youth of our community in the fast growing technological area of aviation," said Florida Memorial College President Willie C. Robinson. This grant strengthens our ability to serve the community and serves as an inspiration to all who are associated with the College."

"Our aim is to encourage and excite low-income minority high school students to set their goals toward a college education and encourage them to claim a place in the growing aviation industry," said Robinson.

Florida Memorial College, the only predominantly black institution in south Florida, is one of only a few institutions in the country authorized by the Federal Aviation Administration to offer the bachelor of science degree in airway science. Concentrations are currently available in airway science management, airway computer science, air traffic control, aviation data processing, and transportation management.

The William Lehman Aviation Center, a new $7.4 million state-of-the-art facility, is scheduled for opening this fall, providing modern teaching, state-of-the-art facilities for the Airway Science Program.

# # #

August 4, 1988

1989

JACK MCCANLEY / Miami Herald Staff

UNDER CONTROL: 'We are hoping to use aviation as a hook to attract high school students into this program who will like it so much that they will want to continue studying,' says Anthony Sharp, director of the division of airway science, shown at a flight simulator at Florida Memorial College.

uture fliers expand their horizons

Y SAN MARTIN
writer

video games found in arcades bout Dade, the cockpit of an airplane sims in a room at Florida Memorial iting for someone to take its con-

e cockpit doesn't take quarters. 12 clocklike gauges, control wheel, pedals and radios operate with the ey and the help of a computer. ckpit is a flight simulator — one of achines students will be working ring a six-week aviation program at ege, 15800 NW 42nd Ave.

e summer program, Airway Sci- nsibility, is the first of its kind of- igh school students since the Wi- man Aviation Center opened at the last September.

hat to give them the exposure to them to want to study careers in said Henry Daniels, director of the Center for Community Change, who is coordinating the program.

TO SIGN UP

High school students who are interested in registering for the free Airway Science Accessibility program may call Henry Daniels, 623-4110, ext. 290.

"Once they see what it is all about, it will help them complete their remaining years in high school," he said.

The college already has recruited 50 high school students from Miami Springs, Northwestern, Edison, Central, Jackson, Carol City and American high schools for the program, which begins Wednesday and runs through Aug. 11.

But there is room for more, Daniels said.

"I'm taking as many as I can get registered," he said.

During the six-week program, students will live in the college dormitories and will be introduced to careers in the aviation industry, including air traffic controller, computer specialist, airport manager and aviation personnel manager.

They will practice flying a plane on the flight simulator and monitor air traffic control activity at the adjacent Opa-locka Airport from a control tower at the college that overlooks the runways.

As part of the program, students also will visit Miami International Airport, Homestead Air Force Base and Fort Lauderdale-Hollywood International Airport.

To qualify, students:

- Must be attending a public high school, grades nine through 12.
- Must be recommended by a teacher, counselor or public school official.
- Must have a grade-point average of 2.5 or higher on a 4.0 scale.
- Must have maintained satisfactory conduct and attendance in school.

The program, which was launched with the help of a federal grant, will cost about $79,000 to operate this summer.

"We are hoping to use aviation as a hook to attract high school students into this program who will like it so much that they will want to continue studying," said Anthony Sharp, director of the division of airway science.

"Any position you can think of that is not aviation-related, you can find a comparable position in the aviation industry," he said. "This is an outlet for kids who have an interest in aviation."

SUNDAY, JULY 2, 1989, THE MIAMI HERALD

APPENDIX - E

SAMPLE LETTER TO STUDENTS REGARDING THE ACADEMIC YEAR PROGRAM

Florida Memorial College

NOV 20 1989

JUDGE WILKIE D. FERGUSON
CHAIRMAN, TRUSTEE BOARD

REV. A.B. COLEMAN, JR.
VICE CHAIRMAN, TRUSTEE BOARD

15800 NORTHWEST FORTY SECOND AVENUE (LEJEUNE ROAD)
MIAMI, FLORIDA 33054
(305) 625-4141

DEWEY KNIGHT, JR.
SECRETARY, TRUSTEE BOARD

CHARLES I. BABCOCK, JR.
CHAIRMAN, EXECUTIVE COMMITTEE

Center for Community Change

November 9, 1989

Dear Friend of Aviation:

We congratulate you for your participation this past summer in the Aviation Careers Accessibility Program. Your presence here contributed a great deal towards the success of the program.

On the night of the banquet, many of you were interested in the year long high school accessibility clubs and the eligibility criteria for participation. We are happy to inform you that the eligibility criteria has not changed. Your acceptance into the year long accessibility clubs will depend upon:

- application for admittance
- eligibility (high school student in grades 9 - 12).
- GPA verification by high school counselor (2.5 and above), good school attendance, good conduct.
- parent's permission
- ability to furnish your own transportation to and from Florida Memorial College on Saturdays.

The schedule of activities as revised are presently proposed to follow the timeline listed below:

November 18, 1989 - Orientation meeting at Florida Memorial College, 9:00 A.M. to 12:00 noon.
December 2, 1989 - Classroom - FMC
December 16, 1989 - Field Trip
January 6, 1990 - Classroom - FMC
January 20, 1990 - Field Trip
February 3, 1990 - Classroom - FMC
February 17, 1990 - Field Trip
March 3, 1990 - Classroom - FMC
March 17, 1990 - Field Trip
April 7, 1990 - Classroom - FMC
April 21, 1990 - Field Trip
May 5, 1990 - Classroom - FMC
* May 19, 1990 - Field Trip

Providing accessibility to aviation careers for minority youth is the primary goal of this program. Your acceptance to support this program indicates that you believe in its goals and objectives. If we here at Florida Memorial can help our high school students to achieve and reach for careers that minorities only dreamed of a decade ago, then our living will not be in vain.

Sincerely yours,

Henry W. Daniels

Dr. Henry Daniels, Co-Director

Mr. J. Anthony Sharp, Co-Director

* Date subject to be changed/adjusted.

APPENDIX - F

SAMPLE STUDENT APPLICATION FOR SUMMER PROGRAM

AIRWAY SCIENCE ACCESSIBILITY PROGRAM
FOR SENIOR HIGH SCHOOL STUDENTS
Through The Summer Aviation Institute
At Florida Memorial College

A Residential Program for students in grades 9 - 12. Starts July 5, 1989 through August 11, 1989. This program will expose students to the various careers in the Aviation Industry. Classes will be provided in Aviation and Aviation Computer Science.

The Aviation Component will utilize our own Frasca 141 flight simulator. Students will have the opportunity to practice flights. This is exactly like flying a real airplane, and it is FAA certified for instrument flight log book entries. You will observe and monitor the Air Traffic Control Activity of Opa Locka Airport from our own Control Tower which overlooks the runways. Computer instruction will take place in the classroom and laboratory using IBM Model /30 PS2 Computers.

Field Trips Will Be Scheduled To:

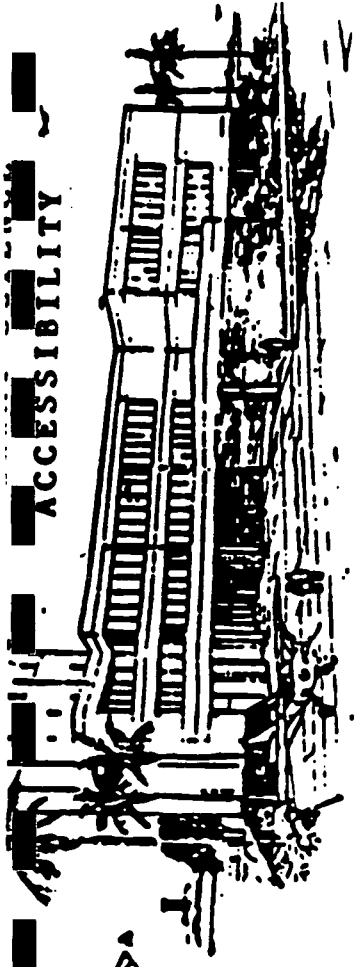
- Miami International Airport
- Delta Airlines Operation Branch at Ft. Lauderdale Airport
- Homestead Air Force Base
- Federal Aviation Administration (FAA) Air Route Traffic Control Center and the
- IBM Corporation

Guest speakers will come and share with you various experiences in their own careers in the Aviation Industry.

This special summer program is designed for students to live in the dormitory and experience college life from Sunday evening through Friday afternoon. Counselors will be available to assist you in every way possible. A leisure time - recreation component will compliment the program.

ELIGIBILITY

- Must be a public high school student entering the freshman, sophomore, or junior class in the fall of 1989.
- Must be recommended by a teacher, counselor, or public school official. (assistant principal or principal).
- Must have a minimum grade point average of 2.5 on a 4.0 scale.
- Must have maintained satisfactory conduct.
- Must have maintained satisfactory attendance.

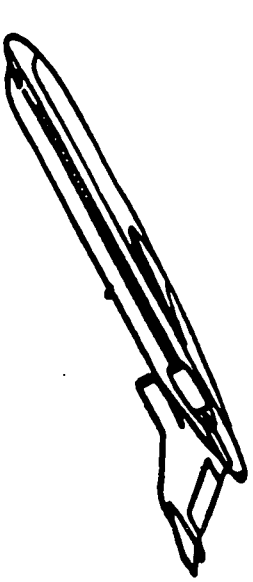


ACCESSIBILITY PROGRAM

For Senior High School Students

July 5 - August 11, 1989

FLORIDA MEMORIAL COLLEGE
15800 N.W. 42nd Avenue
Miami, Florida 33054



A residential program for students in grades 9-12

Sponsored by the Fund for the Improvement of Postsecondary Education

****

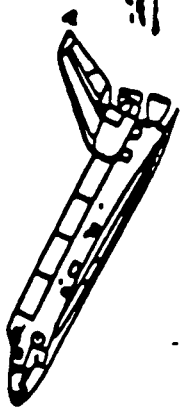
Registration - $100.00 per student - WAIVED

****

To apply, submit the application below to: the Director, Airway Science Division on or before July 5, 1989, or bring the enclosed application to:

The Director, Center For Community Change
Florida Memorial College
15800 N. W. 42nd Avenue
Miami, Florida 33054
For further information call 623-4110, Ext. 269

Report to William Lehman Aviation Center between the hours of 9:00 A.M. and 11:00 A.M. on July 5, 1989 for orientation.



(Detach along this line and return this portion)

Name _____ Date of Birth _____

Home Address _____ Home Phone _____

School _____ Grade _____

Student No. _____ Social Security No. _____

Parent Signature _____

School Official Signature _____

THE AVIATION CAREERS ACCESSIBILITY PROGRAM
SUMMER RESIDENTIAL COMPONENT
AT
FLORIDA MEMORIAL COLLEGE

Florida Memorial College is in the second year of a three year grant from the Fund for the Improvement of Post-Secondary Education (FIPSE), U.S. Department of Education. Its purpose is to expose high school students to aviation career opportunities. The project has two components consisting of an academic year weekend component and a summer residential component.

The summer residential component begins Monday, June 25, and ends Friday, July 20. During this component, students reside in campus dormitories from Sunday through Friday. They leave for home on Friday afternoon and return to the campus on Sunday afternoon. Adult counselors and college student mentors will live in the dorms with the students and provide supervision.

Students will receive academic instruction in Aviation, Computers, Math, and English. Academic classes will be held in the mornings and will be aviation oriented. Students will calculate aircraft weight and balance problems and basic navigation computations. They will also read short aviation stories and study aviation terms and definitions. The afternoons will be devoted to field trips, guest speakers, free time, social and recreational activities including swimming, volleyball, basketball, and tennis.

To be eligible for participation, a student must have a minimum GPA of 2.0, have maintained satisfactory conduct and attendance, and be recommended by a teacher or counselor and the aviation club advisor at the high school. Once these requirements have been met, an interview will be scheduled.

Applications for the summer component must be received by Friday, June 15, 1990. For further information please call 623-1440.

THERE IS NO CHARGE FOR THIS PROGRAM

(Detach and return this form to your aviation club advisor)

NAME_____ DATE OF BIRTH_____

ADDRESS_____ HOME PHONE_____

SCHOOL_____ GRADE_____

STUDENT NO./ SOCIAL SECURITY NO._____

PARENT SIGNATURE_____

SCHOOL OFFICIAL SIGNATURE_____ 5/90

The Aviation Careers Accessibility Program At

FLORIDA MEMORIAL COLLEGE

APPENDIX - G

SAMPLE LETTER TO AVIATION CLUB ADVISORS

Date

Mr./Mrs._____
Aviation Club Advisor
_____ High School
1234 N.W. 567th Street
Miami, Florida 01234

Dear Mr./Mrs._____:

As you know, _____ High School has been targeted, along with _____, _____, and _____ High Schools to participate in a very unique aviation education program. In fact, this program known as the Aviation Careers Accessibility Program (ACAP) is the only one of its kind in the country. It is funded and supported by the Fund for the Improvement of Postsecondary Education (FIPSE) which is an agency within the U.S. Department of Education.

We at Florida Memorial College are pleased to be a part of this project and we are equally pleased to have the opportunity to work with you, your students and your high school. It is our opinion that together we can expose students to careers in the aviation industry, have a great time doing so, and create a dynamic aviation education program in the process.

PURPOSE -- The central purpose of ACAP is to establish a model program for secondary students that will allow them accessibility to careers in the aviation industry. The program features an academic year component and a summer component. Also, it includes a mentorship component, academic enrichment and career counseling, test-taking preparation, field trips, and exposure to college campus life. This project is currently in the second year of its three year grant cycle.

ACADEMIC YEAR COMPONENT -- The methodology of this component involves activity at both the college and the high school. Twice each month on alternating weekends, the students will meet at Florida Memorial College from 9am to 12pm. On one of the weekends, the students will be involved in activities which may include lectures, video tape presentations, guest speakers, computer lab utilization, employment of the air traffic control simulator and operation of the flight simulator. On the other weekend of the month, students will participate in a field trip of interest related to aviation, transportation and/or computer science.

During the weeks when there are no scheduled activities at the college, you as the aviation advisor will be expected to conduct aviation meetings at your school for your group (the aviation club). Do not feel alone on this one - we will be providing you with ample materials to use in conducting your

meetings. While these meetings are primarily for the members of your club, please feel free to open your meetings to all students and faculty who might want to attend.

SUMMER COMPONENT -- This component is designed as a six-week residential program. Each week, the students begin their stay with us on Sunday evenings and they are with us until Friday afternoons. The students live in the college dormitories, are supervised by dorm counselors, and are provided three meals each day in the college cafeteria.

The students attend aviation, computer science, English, and mathematics classes during the mornings Monday through Friday. Their afternoons are devoted to field trips, social, athletic, and recreational activities. Planning for the summer component is currently underway. As the aviation advisor, we would appreciate your input in developing this important program component.

AVIATION CLUB ADVISOR -- As the advisor to the aviation club, your most important responsibility will be to serve as liaison between your school and Florida Memorial College. Also, you will serve as the immediate contact for your students and you will be our first contact for any information related to your club and its activities.

Another major task for you will be to recruit students into your club. We are expecting to work with 80 students during the academic year component and 60 students during the summer component. Your important role in the recruitment process and in the maintenance of appropriate student numbers cannot be overemphasized.

The aviation clubs can be structured in any manner you feel will work for you and the students. We would like to see the selection (or election) of a slate of officers which should include at least a president, vice president, and secretary. You should assist the officers with planning club activities and with conducting meetings. Meetings should not last more than an hour. A portion of the meeting should be devoted to club business and it should be conducted by the students. However, the largest part of the meeting should be conducted by you as you engage the students in some aspect of aviation education. Again, we will be providing you with aviation education materials for your meetings. And remember, we are only a telephone call away. Please let us hear from you.

One other important function of your work with this program will be to keep detailed records of the following:

* a log of the time you spend engaged in activities related to ACAP;
* an on-going journal or notebook of activities involving your club;

* a dated list of all students and other participants in attendance at club activities.

These records will assist us in supplying information and documentation to FIPSE about program activities at the college and, in particular, the high school. Moreover, these records will provide us with documentation to assist us in evaluating program efficiency, effectiveness, and student outcomes.

For your time and effort with this program, we will be able to compensate you at the rate of $100.00 per month beginning January 1990 and ending May 1990. Of course, we hope that we will continue with us for the 1990-91 ACAP program year and for the next academic year component which we expect will begin during September 1990.

Our ACAP Coordinator, Mr. Ross McLoud and I feel that this program has the potential of being a great one. There is no question about the fact that aviation excites all people - hardly anyone is neutral about matters related to aviation. We want to work with you and your students in exposing them to opportunities and career options they have not yet experienced or even thought about. We can do that but, of course, we need your assistance. We look forward to working with you as this program takes "flight."

Yours in aviation education,

J. Anthony Sharp
ACAP Project

Director

APPENDIX - H

TYPICAL SATURDAY PROGRAM AGENDAS

Florida Memorial College

15800 NORTHWEST FORTY SECOND AVENUE (LEJEUNE ROAD)
MIAMI, FLORIDA 33054
(305) 625-4141

Division of Airway Science

FIPSE PROGRAM
AVIATION CAREERS ACCESSIBILITY PROGRAM (ACAP)
WILLIAM H. LEHMAN AVIATION CENTER'S AUDITORIUM

APRIL 7, 1990
9:00 am - 5:00 pm

A G E N D A

0900	Sign-in
0905	Briefing on days activities ..... Mr. McLoud
0910	Review of previous sessions activities.....Mr. Lopez
0915	Remarks by the Director.....Mr. Sharp
0930	Video Tape "Remember When-Wheels, Wings, and Whistles" an HBO production
1030	Break
1045	Discussion of videotape with questions and answers..... Mr. Sharp, Mr. McLoud, Mr. Lopez, Advisors
1100	Summary of mornings activities.....Mr. Sharp
1110	Preview of next sessions activities.....Mr. Lopez
1120	Lunch
1200	Departure for Homestead Air Force Base
1245	Arrival at Homestead Air Force Base
1630	Departure From Homestead Air Force Base
1715	Arrival at Florida Memorial College, Adjournment

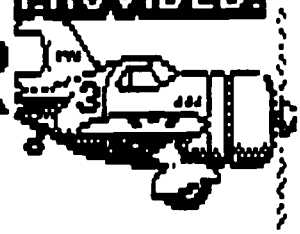
FIPSE

AVIATION CLUB PRESENTS

A TRIP TO THE WEEKS AIR MUSEUM

ON SATURDAY 17 MARCH, 1990
FLORIDA MEMORIAL COLLEGE IS SPONSORING THE AVIATION CAREERS ACCESSIBILITY PROGRAMS (ACAP) FIELD TRIP TO THE WEEKS AIR MUSEUM AT TAMIAMI AIRPORT. A TOUR OF THE AIR TRAFFIC CONTROL FLIGHT SERVICE STATION IS ALSO INCLUDED. TRANSPORTATION TO AND FROM SCHOOL, ADMISSION, AND LUNCH WILL BE PROVIDED.

CONTACT YOUR ACAP ADVISOR FOR DETAILS.



Florida Memorial College

15800 NORTHWEST FORTY SECOND AVENUE (LEJEUNE ROAD)
MIAMI, FLORIDA 33054
(305) 625-4141

Division of Airway Science

FIPSE PROGRAM
AVIATION CAREERS ACCESSIBILITY PROGRAM (ACAP)
WILLIAM H. LEHMAN AVIATION CENTER'S AUDITORIUM

June 2, 1990
0900 - 1300

A G E N D A

0900	Sign-in
0905	Welcome to participants and parents.....Mr. Sharp
0920	Introduction of advisors and ACAP staff.....Mr. Sharp
0930	History of ACAP, 1988 to present.....Mr. Sharp
0945	Review of previous sessions activities.....Mr. McLoud
1000	Review of aviation lectures.....Mr. Lopez
1015	Awarding of certificates of appreciation.....Mr. Sharp
1030	Break
1045	Introduction of video tape: "ACAP Summer Component".....Mr. Sharp
1050	Video Tape: "ACAP Summer Component"
1055	Discussion of summer residential component with questions and answers.....Mr. Sharp, Mr. McLoud
1115	Tour of facility
1145	Lunch
1230	Adjournment

APPENDIX - I

TYPICAL SUMMER PROGRAM SCHEDULES AND ACTIVITIES

MONDAY - FRIDAY

TIME	ACTIVITIES
6:30 AM	Wake up
7:15 AM	Sign out
7:30 AM	Breakfast
8:45 AM	12:00 noon Classes
8:45 AM	Group A - Aviation
	Group B - Basic Computer Programming
10:00 AM	BREAK
10:15 AM	Group A - Basic Computer Programming
	Group B - Aviation
12:00 noon	LUNCH
*1:00 PM - 3:00 PM	Field Trips/Guest Speakers Classes Art & Music
*3:00 PM - 5:00 PM	Supervised Team Sports
5:00 PM - 6:30 PM	DINNER, FREE TIME
6:30 PM - 8:00 PM	Counseling/Movies/Game Room
8:00 PM - 9:30 PM	Homework/Study Time
9:30 PM - 10:00 PM	Snack
10:00 PM - 11:00 PM	Students in Rooms
11:00 PM	Lights Out

FRIDAY 7:00 PM - SUNDAY 7:00 PM

All students are to return home on Friday by 7:00 PM and return to the campus on Sunday by 7:00 PM.

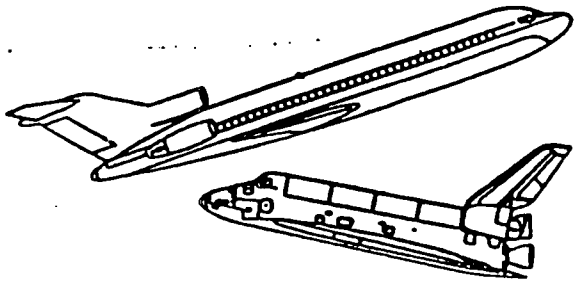
* Time Subject to change due to facility use

FLORIDA MEMORIAL COLLEGE
LEADERSHIP
CHARACTER SERVICE
1879

AVIATION CAREERS ACCESSIBILITY PROGRAM

AIRWAY SCIENCE DIVISION

July 5, 1989 to August 11, 1989



AVIATION CAREERS ACCESSIBILITY PROGRAM

TOURS AND GUEST SPEAKERS

SUMMER 1989

1. Friday, July 7th, 1330 -- Guest speaker. Mr. Carl Singletary, FAA Aviation Safety Inspector, Miami Flight Standards District Office (FSDO).

2. Wednesday, July 12th, 1330 -- Guest speaker. Mr. Donald Smith, Supervisor, Airside Operations, Miami International Airport.

3. Thursday, July 13th, 1400 -- Field trip. Tour Miami International Airport.

4. Monday, July 17th, 0900 -- Field trip. Tour Homestead Air Force Base.

5. Tuesday, July 18th, 1000 -- Guest speaker. Ms. Debbie Whittelsey, Marketing Representative, Delta Airlines.

6. Thursday, July 20th, 1330 -- Field trip. Tour Ft. Lauderdale International Airport, Delta Airline Air Operations.

7. Monday, July 24th, 1245 -- Tour. Homestead Air Force Base.

8. Wednesday, July 26th, 0830 -- Guest speaker. Mr. Charles Flowers, President and owner, Flowers Aviation.

9. Wednesday, July 26th, 1330 -- Tour. The FAA Miami Air Route Air Route Traffic Control Center.

10. Friday, July 28th, 1400 -- Tour. Miami International Airport.

11. Monday, July 31st -- Guest speakers. Three (3) speakers are planned.

12. Wednesday, August 2nd, 1330 -- Tour. U.S. Coast Guard, Air Facility, Opa-locka Airport.

13. Friday, August 4th, 1330 -- Tour. IBM facility, Coral Gables.

14. Tuesday, August 8th, 1330 -- Beechcraft Executive Terminal and fixed base operation, Opa-locka Airport.

JAS/saj

Division of Airway Science

Aviation Careers Accessibility Program (ACAP)

Summer Program Daily Schedule -- 1990

0630	Wake Up
0700-0750	Breakfast
0800-0855	Academic Class #1
0900-0955	Academic Class #2
1000-1055	Academic Class #3
1100-1155	Academic Class #4
1200-1300	Lunch
1300-1500	Coordinated Activities in the AWS Auditorium (including homework, tutoring, guest speakers, field trips, special events, etc.)
1500-1645	Recreational Activities (including swimming, basketball, soccer, tennis, baseball, track, etc.)
1645-1800	Dinner
1800-2200	Free Time (recreation, game room, movies, etc.)
2200	Dorm Curfew
2300	Lights Out

APPENDIX - J

GUIDELINES AND ACTIVITY SUGGESTIONS FOR MENTORS

ROLE OF THE MENTOR IN THE AVIATION CAREERS ACCESSIBILITY PROGRAM

The dictionary defines mentor as "a wise and trusted counselor".

The ACAP mentors will be chosen from the aviation industry and will be paired with groups of two or three students for the purpose of guiding and maintaining the students' interest in the aviation career field.

They must be prepared to give of themselves to these students who will be looking up to them with high expectations.

SUGGESTED MENTOR INVOLVEMENT

1. Weekly telephone communication with students.
2. Group discussion with the students at the campus.
3. Possible visit by students to the work place.
4. Be available for the students in case they need an adult to talk to.
5. Describe your own steps and progress towards selecting aviation as a career.
6. Motivate the students to stay in school and to pursue a college education.
7. Describe the contributions and history of Blacks in aviation.
8. Take them to an NAI meeting.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

NOTICE

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